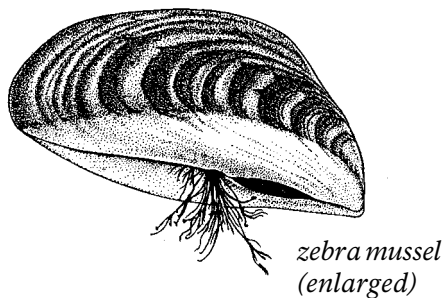


St. Croix National Scenic Riverway

National Park Service
Department of the Interior



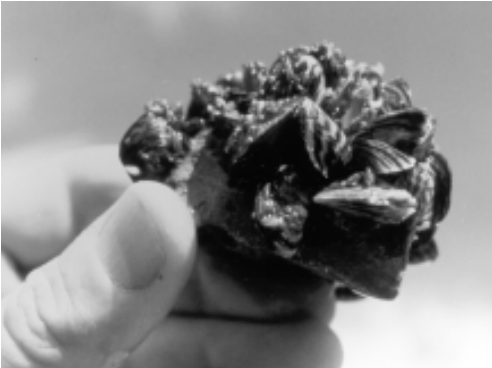
Stopping the Spread of Zebra Mussels



The zebra mussel has infested the Mississippi River, the Great Lakes, and a short stretch of the St. Croix River. The zebra mussel has already caused millions of dollars of environmental and economic damage in the United States. If the mussel population continues to grow in numbers, it will cause a great deal of costly damage to the St. Croix River. The rich native mussel populations of the river may be lost; fish and humans will also be impacted. Your help is needed to prevent the infestation from spreading upstream.

What are they?

Zebra mussels are small, two-shelled clams, typically 3/8 to 3/4-inches long, that can grow up to two inches in length. Light and dark bands give the D-shaped shell a zebra-striped appearance. They produce a tuft of fiber known as byssal threads that allow the adults to attach to hard surfaces. Adults often attach to vessels in large clusters, like barnacles. Immature zebra mussels, called veligers, are microscopic larvae that float in the water with the current.



adult zebra mussel cluster

Where did they come from?

Zebra mussels are native to southern Russia. Ships spread them across Europe and into North America. First found in 1988, in Lake St. Clair near Detroit, zebra mussels have been spread throughout the Great Lakes and Mississippi River drainages by commercial and recreational boats. The size and growth rate of the infestation in the U.S. and Canada is much greater and more severe than in Europe. The predators and diseases that control zebra mussels in southern Russia are not found in any numbers in North America.

Why are they a problem?

The zebra mussel is well adapted for explosive population growth and concentrates in large numbers. Their presence can kill native mussels. One of the nation’s most significant arrays of native mussel species is found in the St. Croix and Namekagon rivers. Nationwide, native mussels are the most imperiled group of animals, and are declining at an alarming rate. Zebra mussels are accelerating this decline. Zebra mussels consume significant amounts of plankton,

altering the available food on which fish and wildlife depend.

Zebra mussels can damage boat engines, docks, and breakwaters. They also can clog water intake systems of industries, power facilities, and engine outdrives, causing expensive shutdowns, repairs and replacement of treatment systems. They have interrupted the flow of drinking water to entire communities.

What are we doing?



Zebra mussel adults and veligers cannot move upstream against the current without human assistance. To protect the St. Croix River from the spread of zebra mussels, the park is restricting upstream boat traffic at mile 28.5, at the Soo Line High Bridge, approximately 3.5 miles north of Stillwater, Minnesota. National Park rangers are stationed on the “Big Dipper,” a floating contact station, beyond which boats may not travel upstream.

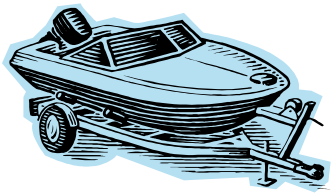
Park rangers and staff from the Minnesota and Wisconsin Department of Natural Resources inspect boats at river landings, before boats are launched to search for zebra mussels and other exotic aquatic species.

The park staff monitors the river for zebra mussels and actively educates the public about the importance of preventing zebra mussel infestations.

The future?

At this time there are no methods for eliminating zebra mussels once they establish a reproducing population. Some native species, such as ducks and fish, eat the mussels, but not in enough quantities to limit the spread. Scientists are looking for ways to reduce or eliminate zebra mussel populations.

What you can do to help.



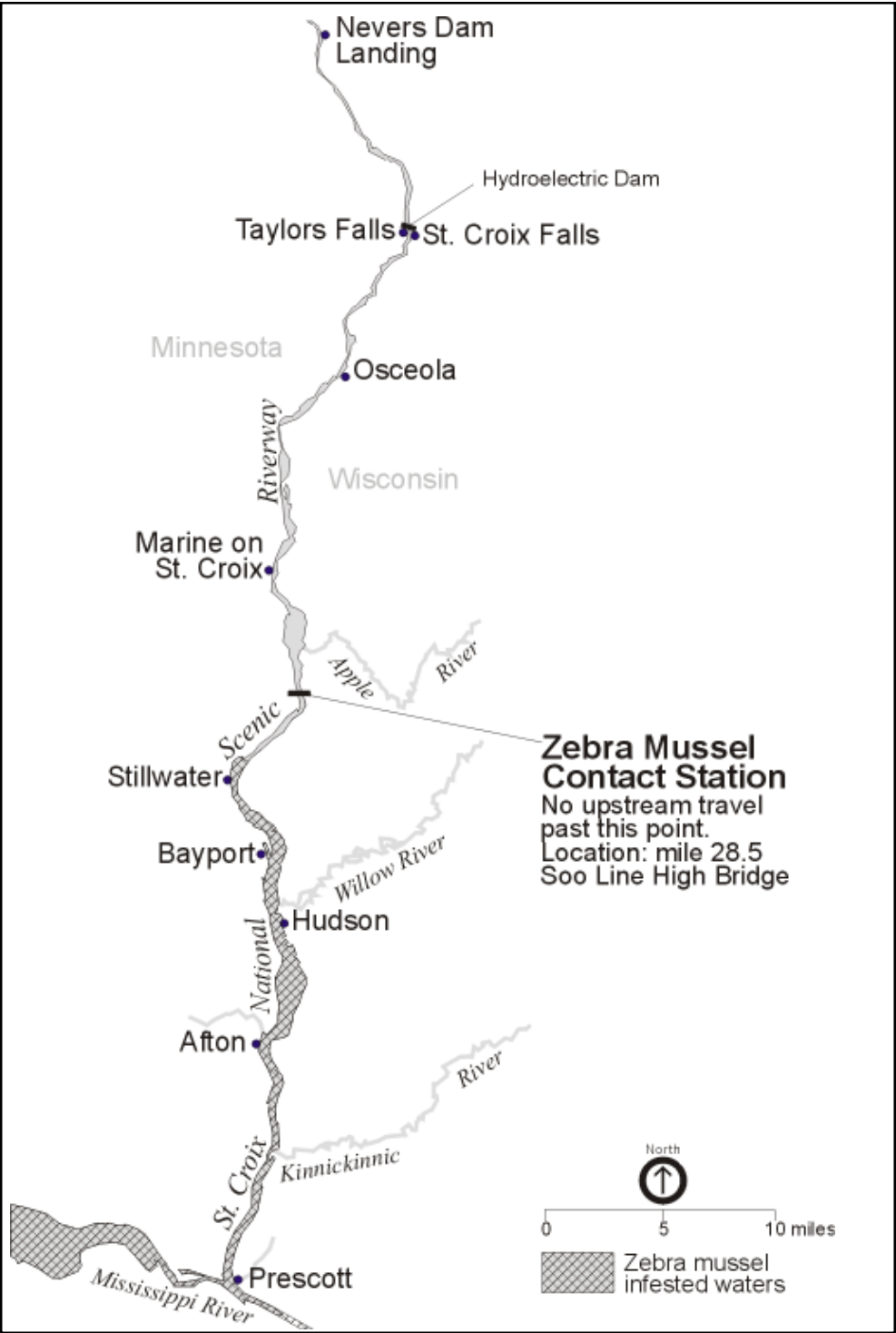
Before returning to the St. Croix from zebra mussel infested waters (including the river from Stillwater south), please do the following:

Visual Inspection and Removal

Look for zebra mussels attached to your trim tabs, swim platform, motor mounts, hull, and equipment. Remove all zebra mussels from your boat, trailer, and equipment. Treat zebra mussels like litter and dispose of them in a trash can. Remember to remove all plant material you find while looking for zebra mussels, because they can attach to plants, including Eurasian milfoil.

Decontaminate Your Boat

Thoroughly hose down the hull surface, transom, keels, drive units, wet wells, bilges, trailer, bait buckets, etc. with hot water (120 to 140 degrees F). Zebra mussels are intolerant of heat and a good soaking will kill both young larvae and adults. As an alternative to hosing down your boat, let it and equipment dry completely for five days before you use it in non-infested waters. Add a day to the number of drying days for each day of rain. Drain all areas where water may collect. Doing both hot water treatments and drying adds additional protection.



Also remember these regulations:

- * It is illegal to disturb, use or take any live native clam or empty clam shell from the St. Croix or Namekagon rivers.
- *Personal water craft are prohibited on the St. Croix River, north of Stillwater, Minnesota (mile 25.4), and the entire Namekagon River.

Be on the lookout!

If you find zebra mussels in the non-infested part of the St. Croix River or if you would like more information, please call the St. Croix National Scenic Riverway at (715) 482-3284 ext. 616. Byron Karns, Zebra Mussel Prevention Specialist, can also be contacted at byron_karns@nps.gov. Or look up the park website at www.nps.gov/sacn/management/invasive.html.

Example of native freshwater mussel. Note there are no byssal threads.

